

Applic. No. 10/823,226

Amdt. dated April 28, 2005

Reply to Office action of December 28, 2004

Remarks/Arguments:

Reconsideration of the application is requested.

Claims 1-22 remain in the application. Claims 1 and 13 have been amended.

In item 1 on page 2 of the above-identified Office action, claims 1-4 have been rejected as being fully anticipated by Davis (U.S. Patent No. 4,911,839) under 35 U.S.C. § 102.

As will be explained below, it is believed that the claims were patentable over the cited art in their original form and the claims have, therefore, not been amended to overcome the references.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, *inter alia*:

at least one planar region disposed spaced apart from the membrane margin and having a surface larger than the given surface of one of the supporting elements and positioned

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disposed opposite to a sludge inflow in a final mounting state of the membrane plate.

The Davis reference discloses a circular area (14f) of the membrane that covers the flat top of the stay boss (17). The circular area is supported by the stay boss (17).

The reference does not show at least one planar region disposed spaced apart from the membrane margin and having a surface larger than the given surface of one of the supporting elements and positioned disposed opposite to a sludge inflow in a final mounting state of the membrane plate, as recited in claim 1 of the instant application. The Davis reference discloses a circular area (14f) that covers and is supported by the stay boss. The Davis reference does not disclose a surface larger than the supporting elements that is disposed opposite a sludge inflow in a final mounting state of the membrane. This is contrary to the invention of the instant application as claimed, in which at least one planar region is disposed spaced apart from the membrane margin and has a surface larger than the given surface of one of the supporting elements and is positioned disposed opposite to a sludge inflow in a final mounting state of the membrane plate.

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Since claim 1 is believed to be allowable, dependent claims 3-4 are believed to be allowable as well.

Even though dependent claims 2 and 3 are believed to be allowable, the following remarks pertain to claims 2 and 3.

The Davis reference does not disclose a planar region that is a reinforcement that is a thickening of the membrane material of the planar region. Figure 2 of Davis shows that the circular area 14f of the membrane is not thickened with respect to the remaining areas of the membrane. The membrane is a constant thickness. This is supported by the dashed line in Fig. 2 of Davis, which shows the outer contour of the membrane (14).

In item 6 on page 3 of the Office action, claims 15 and 16 have been rejected as being fully anticipated by Tiger Gil et al. (U.S. Patent No. 5,658,468) (hereinafter "Gil") under 35 U.S.C. § 102.

Claim 15 calls for *inter alia*:

an outlet duct extending in a region of the inflow orifice substantially perpendicularly to a longitudinal direction of the chamber plate.

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The Gil reference discloses an inlet pipe (17) with an inlet orifice (19) that is disposed at an angle α of 10-30 degrees to the normal of the longitudinal axis of the plate (24).

The reference does not show an outlet duct extending in a region of the inflow orifice substantially perpendicularly to a longitudinal direction of the chamber plate, as recited in claim 15 of the instant application. The Gil reference discloses a pipe that is at an angle of 10-30 degrees with respect to the normal of the longitudinal axis of the plate. The Gil reference does not disclose that the pipe is substantially perpendicular to the longitudinal axis of the plate. This is contrary to the invention of the instant application as claimed, in which an outlet duct extends in a region of the inflow orifice substantially perpendicularly to a longitudinal direction of the chamber plate.

Since claim 15 is believed to be allowable over Gil, dependent claim 16 is believed to be allowable over Gil as well.

In item 11 on page 4 of the above-identified Office action, claims 5-8 and 11 have been rejected as being obvious over Davis (U.S. Patent No. 4,911,839) in view of Ruhland (U.S. Patent No. 5,601,709) under 35 U.S.C. § 103. Ruhland does not

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make up for the deficiencies of Davis. Since claim 1 is believed to be allowable, dependent claims 5-8 and 11 are believed to be allowable as well.

In item 17 on page 5 of the above-identified Office action, claims 9 and 10 have been rejected as being obvious over Davis (U.S. Patent No. 4,911,839) in view of Ruhland (U.S. Patent No. 5,601,709) and Mikkaichi (U.S. Patent No. 6,460,300) under 35 U.S.C. § 103. Mikkaichi does not make up for the deficiencies of Davis and Ruhland. Since claim 1 is believed to be allowable, dependent claims 9 and 10 are believed to be allowable as well.

In item 20 on page 6 of the above-identified Office action, claim 13 has been rejected as being obvious over Davis (U.S. Patent No. 4,911,839) in view of Gil (U.S. Patent No. 5,658,468) under 35 U.S.C. § 103.

The rejection has been noted and the claims have been amended in an effort to even more clearly define the invention of the instant application. The claims are patentable for the reasons set forth below. Support for the changes is found in claim 1 of the instant application.

Claim 13 calls for, *inter alia*:

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the at least one planar region positioned disposed opposite to a sludge inflow of the at least one chamber plate in a final mounting state of the membrane carrier plate.

It is a requirement for a *prima facie* case of obviousness, that the prior art references must teach or suggest all the claim limitations.

The references do not show or suggest the at least one planar region positioned disposed opposite to a sludge inflow of the at least one chamber plate in a final mounting state of the membrane carrier plate, as recited in claim 13 of the instant application.

The Davis reference discloses a circular area (14f) that covers and is supported by the stay boss. The Davis reference does not disclose that the circular area (14f) is disposed opposite a sludge inflow in the final mounting state of a membrane carrier plate. This is contrary to the invention of the instant application as claimed, in which the at least one planar region is positioned disposed opposite to a sludge inflow of the at least one chamber plate in a final mounting state of the membrane carrier plate.

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The Gil reference discloses a membrane (14) disposed opposite the orifice (19). The Gil reference does not disclose that the membrane has a planar region as recited in claim 13 of the instant application. This is contrary to the invention of the instant application as claimed, in which the at least one planar region is positioned disposed opposite to a sludge inflow of the at least one chamber plate in a final mounting state of the membrane carrier plate.

The references applied by the Examiner do not teach or suggest all the claim limitations. Therefore, it is believed that the Examiner has not produced a *prima facie* case of obviousness.

In item 22 on page 7 of the above-identified Office action, claim 14 has been rejected as being obvious over Davis (U.S. Patent No. 4,911,839) in view of Stover et al. (U.S. Patent No. 5,198,123) (hereinafter "Stover") under 35 U.S.C. § 103. Since claim 13 is believed to be allowable, dependent claim 14 is believed to be allowable as well. It is also noted that since claim 14 is dependent upon claim 13 it is assumed that claim 14 should not be rejected without the Gil reference. Therefore, the rejection of claim 14 over Davis in view of Stover is not consistent with the rejection of claim 13.

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In item 24 on page 7 of the Office action, claim 17 has been rejected as being obvious over Gil (U.S. Patent No.5,658,468) in view of Gwilliam (U.S. Patent No.3,276,594) under 35 U.S.C. § 103. Gwilliam does not make up for the deficiencies of Gil. Since claim 15 is believed to be allowable, dependent claim 17 is believed to be allowable as well.

In item 26 on page 8 of the Office action, claim 18 has been rejected as being obvious over Gil (U.S. Patent No.5,658,468) in view of Stover (U.S. Patent No.5,198,123) under 35 U.S.C. § 103. Stover does not make up for the deficiencies of Gil. Since claim 15 is believed to be allowable, dependent claim 18 is believed to be allowable as well.

In item 28 on page 8 of the above-identified Office action, claims 19-22 have been rejected as being obvious over Davis (U.S. Patent No. 4,911,839) in view of Gil (U.S. Patent No.5,658,468) under 35 U.S.C. § 103.

Claims 19 and 22 call for, *inter alia*:

a plurality of chamber plates each having a plurality of sludge inflows each with an inflow orifice formed therein and disposed substantially opposite the planar region of the membrane.